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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,929	10/15/2001	Mitsuma Ooishi	316539/00	9624

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EXAMINER

HODGES, MATTHEW P

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 07/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/975,929

Applicant(s)

OOISHI ET AL.

Examiner

Matt P Hodges

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:

Page 4 figure 9, reference number 91'' is not mentioned in the description.

A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

Page 9 line 21, reference number 42' is not shown in the specification.

Appropriate correction is required.

Claim Objections

Claims objected to because of the following informalities:

Claim 3 line 4, electrode should be plural.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 3, 4, 7, 9, 11, 13, and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 2, claim 2 recites the limitations “a metal auxiliary electrode to be leading wiring laminated on the transparent electrode outside the display area” and “a pair of metal auxiliary electrodes are formed on the transparent electrode to be the leading wiring outside the display area”, these limitations render the claim indefinite, since where a claim directed to a device can be read to include the same element twice, it is considered indefinite. See MPEP §2173.05(o).

Regarding claims 3, 7, 9, 11, and 13, claims 3, 7, 9, 11, and 13 are rejected for the same reasons as claim 2 due to their dependency on claim 2.

Claim 5 recites the limitation “front electrode” in line 4. There is insufficient antecedent basis for this limitation in the claim. For the purposes of examination front electrode is taken to mean the transparent electrode of claim 1.

Regarding claim 5, claim 5 recites the limitation “the metal auxiliary electrode is further provided to the leading wiring of the front electrode”, these limitations render the claim indefinite, since where a claim directed to a device can be read to include the same element twice, it is considered indefinite. See MPEP §2173.05(o). In this specific case it is unclear how this recitation distinguishes itself from the recitation of claim 1 where the

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metal auxiliary electrode is the leading wiring laminated on the transparent electrode outside the display area.

Claim 15 recites the limitation "each pair of the plural metal auxiliary electrodes..." in lines 3 and 4. There is insufficient antecedent basis for this limitation in the claim. Specifically there is insufficient antecedent basis for "each pair".

Claim 19 recites the limitation "front electrodes" in line 4. There is insufficient antecedent basis for this limitation in the claim. For the purposes of examination front electrode is taken to mean the transparent electrodes of claim 14.

Regarding claim 19, claim 19 recites the limitation "the metal auxiliary electrode is further provided to the leading wiring of the plural front electrodes", these limitations render the claim indefinite, since where a claim directed to a device can be read to include the same element twice, it is considered indefinite. See MPEP §2173.05(o). In this specific case it is unclear how this recitation distinguishes itself from the recitation of claim 14 where the metal auxiliary electrode is the leading wiring laminated on the transparent electrodes outside the display area.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4, 5, 10-15, 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Fleming et al. (US 6,111,357).

Regarding claims 1 and 14, Fleming discloses (see figures 1a and 1c) an organic display panel including a transparent substrate (12), a transparent electrodes (14) formed on the substrate, an organic EL layer (16) formed on the transparent electrodes, a second group of electrodes (18) formed on the opposite side of the organic EL layer, metal auxiliary electrodes (20) extending from the transparent electrodes, and a seal (44) that encircles the display area and is fixed to the transparent substrate. (Column 6 lines 41-53) and (Column 7 lines 1-25, and 39-49). Further (see figure 6c) the metal auxiliary electrodes include a number of locations (29), formed on the bonded portion of the metal electrodes, which cross the metal auxiliary electrodes and which are non-continuous in the longitudinal direction. (Column 10 lines 41-45).

Regarding claim 2, Fleming discloses the apparatus as described in the rejection of claim 1 above, and further specifies the use of a pair of metal auxiliary electrodes (see figure 1c). As defined in the specification (Page 12 lines 23-27), a pair of metal auxiliary electrodes includes an electrode formed inside the sealing portion and a portion formed outside the sealing portion. In this case the first electrode (22) is formed inside the sealing portion (24) and the second electrode (26) is formed outside the sealing portion. The two electrodes are joined at the sealing portion. (Column 7 lines 61-67).

Regarding claims 4, 5, 18, and 19, Fleming further discloses (see figure 1a) the use of metal auxiliary electrodes (30) similar to the electrodes used on the transparent electrodes for use on the back electrodes (18).

Regarding claims 10 and 11, Fleming further discloses the use of a UV radiation curable adhesive for the bonding of the leading wiring and the sealing member. (Column 9 lines 5-15).

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Regarding claims 12 and 13, Fleming further discloses the use of multiple layers forming the organic EL medium. (Column 6 lines 26-27). Additionally Fleming discloses the various combinations of traditional organic EL devices to be used in the device as claimed. Included in those incorporated references is Tang (US 4,356,429) in which an organic luminescent layer and a hole transport layer are used as the layers of the organic EL medium. Therefore the Fleming reference anticipates the use of the organic luminescent layer and a hole transport layer in the organic EL device as described in the rejection of claim 1 and 2 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 6-9 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fleming et al. (US 6,111,357).

Regarding claims 3 and 17, Fleming discloses the device as claimed (see rejections of claims 1, 2 and 14 above) but does not appear to specify the use of electrodes in a pair on either side of the bonding part where the electrodes are longer than the width of the leading electrode. However the applicant fails to identify the use of auxiliary electrodes that are longer than the width of the leading electrode to solve any problem or yield any unexpected result that is not within in the scope of the teachings relied upon. Further the varying of the length of the electrode to enhance to electrical

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characteristics of the joint between the auxiliary electrodes and the transparent electrode is well known in the art of organic EL devices. Additionally limiting the length to a lower bound to enhance display characteristics is also well known. Thus varying the length of the electrode both longer and shorter than the disclosed length is well known in the art to either improve the electrical connection or improve the transparency of the electrodes. It would have been an obvious design choice to one having ordinary skill in the art to use auxiliary electrodes that are longer than the width of the leading electrode in the organic display device as disclosed by Fleming, since such a modification would involve a mere change in the length of the auxiliary electrodes.

Regarding claims 6 and 7, Fleming discloses the device as claimed (see rejections of claims 1 and 2 above) but does not appear to specify the area of the exposed transparent electrode in the sealing portion being between 50% to 90% of the whole area of the bonded part. However the applicant fails to identify the use of the area of the exposed transparent electrode in the sealing portion being between 50% to 90% of the whole area of the bonded part to solve any problem or yield any unexpected result that is not within in the scope of the teachings relied upon. Further it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In this case Fleming teaches modification of the metal lines with respect to the variables of the organic EL device in order to provide sufficient transparency to cure the resin and enough line width to allow for suitable conductivity. (Column 13 lines 35-40). It would have been an obvious design choice to one having ordinary skill in the art to incorporate the area of the exposed transparent electrode in the sealing portion being between 50% to 90% of the whole area

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of the bonded part to the organic EL device as disclosed by Fleming, since such a modification would involve a mere optimization of the area where the transparent electrode is visible through the auxiliary electrode and since optimization of workable ranges is considered within the skill of the art.

Regarding claims 8 and 9, Fleming discloses the device as claimed (see rejections of claims 1 and 2 above) but does not appear to specify the use of a resistance value of the leading wiring to be 30 Ohms or less. However the applicant fails to identify use of a resistance value of the leading wiring to be 30 Ohms or less to solve any problem or yield any unexpected result that is not within in the scope of the teachings relied upon. Further it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In this case Fleming teaches modification of the metal lines with respect to the variables of the organic EL device in order to provide sufficient transparency to cure the resin and enough line width to allow for suitable conductivity. (Column 13 lines 35-40). It would have been an obvious design choice to one having ordinary skill in the art to incorporate the use of a resistance value of the leading wiring to be 30 Ohms or less to the organic EL device as disclosed by Fleming, since such a modification would involve a mere optimization of the area of the auxiliary electrode compared to the holes formed therein and since optimization of workable ranges is considered within the skill of the art.

Regarding claim 15, Fleming discloses the device as claimed (see rejection of claim 14 above) but does not appear to specify the use of electrodes in a pair on either side of the bonding part where the distance separating electrodes of a pair is smaller than the distance separating a first electrode from a second electrode opposite the bonding

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portion of the first electrode and on a adjacent line. However the applicant fails to identify the use of electrodes in a pair on either side of the bonding part where the distance separating electrodes of a pair is smaller than the distance separating a first electrode from a second electrode opposite the bonding portion of the first electrode and on a adjacent line to solve any problem or yield any unexpected result that is not within in the scope of the teachings relied upon. Further the varying of the distances between the paired electrodes and the adjacent electrodes is well known in the art to enhance electrical characteristic and specifically to ensure against emission between adjacent lines. Thus it would have been an obvious design choice to one having ordinary skill in the art to use electrodes in a pair on either side of the bonding part where the distance separating electrodes of a pair is smaller than the distance separating a first electrode from a second electrode opposite the bonding portion of the first electrode and on a adjacent line in the organic display device as disclosed by Fleming, since such a modification would involve a mere change in the distance separating the adjacent lines.

Regarding claim 16, Fleming discloses (see figure 6c) the use of a reflected image of the bonding part pattern in adjacent lines.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nagase et al. (US 6,344,661) discloses the use of various bonding part patterns in the sealing portion of the auxiliary electrode and the transparent electrode.


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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matt P Hodges whose telephone number is (703) 305-4015. The examiner can normally be reached on 7:30 AM to 4:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

mph 
July 10, 2003


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